

Suggested Procedure for Bearing Analysis

Follow the steps below for an accurate and complete analysis when investigating any bearing damage or system breakdowns. If you need help, contact one of our sales or service engineers.

1. Gather operating data from bearing monitoring devices; analyze service and maintenance records and charts; and secure application diagrams, graphics or engineering drawings.
2. Prepare an inspection sheet to capture all your observations. Take photographs throughout the procedure to help document or describe the damaged components.
3. Extract any used lubricant samples from bearings, housing and seal areas to determine lubricant conditions. Package it separately and label it properly.
4. Secure a sample of new, unused lubricant. Record any specification or batch information from the container. Obtain the technical specifications and any related material safety data (handling, disposal, toxicological) documentation to accompany lubricant shipments.
5. Check the bearing environment for external influences, like other equipment problems, that preceded or occurred at the same time bearing damage was reported.
6. Disassemble the equipment (either partially or completely). Record an assessment of the mounted bearing condition.
7. Inspect other machine elements, especially the position and condition of components adjacent to the bearing, including locknuts, adapters, seals and seal wear rings.
8. Mark and record the mounted position of the bearings and components prior to removal.
9. Measure and verify shaft and housing size, roundness and taper using certified gauges.
10. Following removal, but before cleaning, record observations of lubricant distribution and condition.
11. Clean parts and record the manufacturers' information from markings on the bearing rings (part number, serial number, date code).
12. Analyze the condition of the internal rolling contact surfaces, load zones and the corresponding external surfaces.
13. Apply preservative oil and repackage the bearings to avoid corrosion.
14. Compile a summary report of all data for discussion with Timken sales or service engineers.